

We claim:

1. A method of increasing expression of GLUT4 in a subject comprising administering to the subject a GDF-8 inhibitor.
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2. A method of increasing insulin sensitivity and glucose uptake by cells in a subject comprising administering to the subject a GDF-8 inhibitor.
3. A method of treating diabetes in a subject comprising administering to
10 the subject a GDF-8 inhibitor.
4. The method of any one of claims 1-3, wherein the GDF-8 inhibitor is an antibody or antibody fragment.
- 15 5. The method of any one of claims 1-3, wherein the GDF-8 inhibitor is selected from the group consisting of a peptide fragment of GDF-8, a dominant-negative mutant of GDF-8, a GDF-8 receptor antagonist, a non-GDF-8 peptide, an antisense nucleic acid and a ribozyme.
- 20 6. The method of any one of claims 1-3, wherein the GDF-8 inhibitor is derived from mature GDF-8 protein.
7. The method of any one of claims 1-3, wherein the GDF-8 inhibitor is derived from the Pro domain of a GDF-8 protein.
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8. The method of claim 2, wherein said insulin sensitivity and glucose uptake is increased by modulating the expression of a hexose transporter selected from the group consisting of GLUT4 and GLUT1
- 30 9. The method of claim 2, wherein the cell is a muscle cell or a precursor thereof.

10. The method of claim 2, wherein the cell is an adipocyte or a precursor thereof.
11. The method of claim 3, wherein the subject is suffering from type II diabetes.